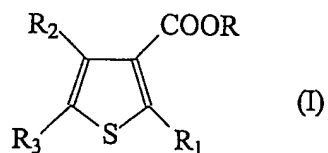


## CLAIMS

1. A solid catalyst component for the polymerization of olefins comprising Mg, Ti, halogen and an electron donor selected from thiophene derivatives of formula (I)



- wherein R is a branched alkyl group, R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub>, same or different, are hydrogen, halogen, R<sup>4</sup>, OR<sup>4</sup>, COOR<sup>4</sup>, SR<sup>4</sup>, NR<sub>2</sub><sup>4</sup> and PR<sub>2</sub><sup>4</sup>, wherein R<sup>4</sup> is a linear or branched C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>2</sub>-C<sub>20</sub> alkenyl, C<sub>3</sub>-C<sub>20</sub> cycloalkyl, C<sub>6</sub>-C<sub>20</sub> aryl, C<sub>7</sub>-C<sub>20</sub> alkylaryl or C<sub>7</sub>-C<sub>20</sub> arylalkyl group, optionally containing one or more heteroatoms, and two or more of said R<sub>1</sub>-R<sub>3</sub> groups can also be joined to form a cycle, with the provisions that at least one of R<sub>1</sub> and R<sub>2</sub> is COOR<sup>4</sup> and that when R<sub>2</sub> is COO-i-octyl and R is i-octyl, R<sub>1</sub> and/or R<sub>3</sub> are different from hydrogen.
2. The catalyst component according to claim 1 in which in the thiophene derivatives of formula (I) R is a primary branched alkyl having from 4 to 15 carbon atoms.
  3. The catalyst component according to claim 1 in which in the thiophene derivatives of formula (I) R<sub>2</sub> is a COOR group.
  4. The catalyst components according to claim 3 in which R<sub>1</sub> and/or R<sub>3</sub> is a C<sub>1</sub>-C<sub>20</sub> alkyl group.
  5. The catalyst component according to claim 1 in which in the thiophene derivatives of formula (I) R<sub>1</sub> is a COOR group.
  6. The catalyst components according to claim 5 in which one of R<sub>2</sub> and R<sub>3</sub> of formula (I) are different from hydrogen.

7. The catalyst component of claim 1 comprising a titanium compound having at least a Ti-halogen bond and the thiophene derivatives of formula (I) supported on a Mg halide in active form.
8. A catalyst for the polymerization of olefins comprising the product of the reaction between:
  - a solid catalyst component according to any of the claims 1-7;
  - an alkylaluminum compound and, optionally,
  - one or more electron-donor compounds (external donor).
9. The catalyst according to claim 8 in which the alkylaluminum compound (b) is a trialkyl aluminum compound.
10. Process for the (co)polymerization of olefins carried out in the presence of any of the catalysts of claims 8-9.